

REMARKS

Amendments to the claims

Claims 1 and 13 are amended to give a positive recitation the amine gelling catalyst is acid blocked. Support for this amendment can be found on page 10, line 6 and supporting description through page 11 line 16.

Pending Claims

Claims 1-13 remain pending in the present application.

ARGUMENTS

Rejections under 35 USC §102(b)

Claims 1-6 and 11-13 stand rejected under 35 USC §102(b) as being anticipated by Casati et al. (WO 03/029320 A1). Casati et al. is cited as teaching the production of polyurethanes using amine initiated polyols in which one or more catalysts can be used for the reactions, including tertiary amine compounds (page 21, line 22-25). The Office Action further points out the tertiary amine catalysts as disclose in Casati et al. are less than 80 percent acid blocked.

As the claims are presently amended, there is a positive recitation the tertiary amine catalyst are acid blocked, wherein less than 80 mole percent of the amines are acid blocked. For anticipation, a reference must disclose every element of the claim either explicitly or inherently. Reference to tertiary amine catalyst in Casati et al. does not recite such catalysts can be acid blocked. In addition, the amine catalyst cited in Casati et al. would not inherently contain acid blocked amines. Therefore Applicants submit the claims as amended are novel over Casati et al.

Rejections under 35 USC §103(a)

Claims 7-10 stand rejected under 35 USC §103(a) as being unpatentable over Casati et al. (WO 03/029320) and further in view of Ghobary et al. (US 2004/0029986). Casati et al. is cited as disclosing the production of polyurethane products as applied to claim 1 above but fails to teach a gelling amine catalyst which is partially acid blocked with an organic acid. Ghobary et al. is cited as teaching the production of a polyurethane foam which incorporates acid-blocked amines, usually the amines of a tertiary amine and a carboxylic acid. The Office Action further

stats acid-blocked catalysts delay the onset of the isocyanate-polyol reaction, as well as lend to foams which exhibit good curing rates, and said catalysts contribute to produced parts with excellent physical properties, citing paragraph [0022] of Ghobary et al.

There are several major differences between the acid-blocked catalysts used in Ghobary et al. and those used in the present invention. The delayed action catalysts of Ghobary et al. are directed to delay of the foaming reaction [the blowing reaction, see paragraph [0061]] whereas the present invention are to acid blocked catalysts which affect the gelling reaction. The difference in the foaming and gelling reaction is described in Ghobary et al. paragraph [0005]. Secondly, the catalyst of Ghobary et al. are non-cyclic catalyst as disclosed in paragraph [0051] and [0052] and the use of non-cyclic blocked blowing catalysts C1, C2 and C3 in the working examples. The acid-blocked catalysts used in the present invention are required to have a cyclic structure.

As shown in comparative example 3C of the present application, when an acid-blocked tertiary amine catalyst, reported to promote the blowing reaction, is used in a formulation with an amine initiated polyol, a foam is produced which has very poor humid aging compression set (HACS). Thus, combining the teaching of Ghobary et al. with Casati et al. produces a foam with very poor HACS; which is directly opposite of improving HACS as is achieved in the present invention. Therefore the claims of the present invention are non-obvious over Casati et al. in view of Ghobary et al.

SUMMARY

In view of the above amendment, applicant believes the pending application is novel and non-obvious over the cited art and in condition for allowance. If there are any remaining issues, the representative for the Applicants can be reached at the telephone number below.

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6

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Respectfully submitted,

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